

Ruling the Root

Internet Governance and the Taming of Cyberspace

Milton L. Mueller

The MIT Press
Cambridge, Massachusetts
London, England

Contents

1	Introduction: The Problem of the Root	1
1.1	A Constitutional Moment	3
1.2	The Root	5
1.3	Governance	7
1.4	Institutionalization	10
1.5	Goals and Plan of the Book	11
1	The Root as Resource	
2	The Basic Political Economy of Identifiers	15
2.1	Uniqueness Requires Coordination	15
2.2	Defining the Space	16
2.3	Assigning Unique Values	17
2.4	Governance Arrangements	26
2.5	An Example: The Ethernet Address Space	27
2.6	Review of the Framework	29
3	The Internet Name and Address Spaces	31
3.1	The Internet Address Space	32
3.2	The Internet Name Space	39
3.3	The DNS Root	47
3.4	Conclusion	56
4	The Root and Institutional Change: Analytical Framework	57
4.1	Formation of Property Rights	58
4.2	Property Rights	60
4.3	Technological Change, Endowment, and Appropriation	61
4.4	Institutionalization	63
4.5	Applying the Framework to Internet Governance	67

II The Story of the Root

5 Growing the Root 73

- 5.1 Prehistory 74
- 5.2 The Origin of the Root 75
- 5.3 Growth and Convergence 82
- 5.4 Growth and Governance 89
- 5.5 Who Controlled the Root? 98

6 Appropriating the Root: Property Rights Conflicts 105

- 6.1 Endowment: Commercial Use and the World Wide Web 106
- 6.2 Conflicts over Second-Level Domains 115
- 6.3 Conflicts over Top-Level Domains 124
- 6.4 Conflicts over the Root 134

7 The Root in Play 141

- 7.1 IAHC and the gTLD-MoU 142
- 7.2 Political Reaction to the gTLD-MoU 146
- 7.3 Challenges to Network Solutions 151
- 7.4 The U.S. Government Intervenes 154
- 7.5 The Green Paper and Its Aftermath 159

8 Institutionalizing the Root: The Formation of ICANN 163

- 8.1 From Green Paper to White Paper 164
- 8.2 The International Forum on the White Paper 175

9 The New Regime 185

- 9.1 Redistributing the Riches of .com: Registrar Accreditation 186
- 9.2 Branding the Name Space: WHOIS and UDRP 190
- 9.3 The Assimilation of Network Solutions 194
- 9.4 U.S. Government Policy Authority over the Root 197
- 9.5 Representation: Barriers to Entry 197
- 9.6 New Top-Level Domains 201
- 9.7 Country Codes and National Governments 205

III Issues and Themes

10 ICANN as Global Regulatory Regime 211

- 10.1 What ICANN Is Not 212
- 10.2 What ICANN Is 217
- 10.3 Forces Affecting ICANN's Future 221

11 Global Rights to Names	227
11.1 A Web Site by Any Other Name ...	228
11.2 Expanding Trademark Rights	231
11.3 New Rights in Names: WIPO 2	238
11.4 Free Expression vs. Controlled Vocabulary	245
11.5 DNS vs. WIPO	252
12 Property Rights and Institutional Change: Some Musings on Theory	255
12.1 Artificial Scarcity: "Positive Feedback" and Path Dependence	255
12.2 Who Owns the Name Space?	259
13 The Taming of the Net	265
Selected Acronyms	269
Notes	273
References	303
Index	311